

Sub  
a1

I claim:

1. A method for inducing an immune response against transformed, infected or diseased tissue comprising removing only components present in the blood having a molecular weight of 120,000 daltons or less, until the transformed, infected, or diseased tissue is reduced in amount.
2. The method of claim 1 wherein the tissue is a solid tumor.
3. The method of claim 1 wherein the components are removed from one blood volume.
4. The method of claim 1 wherein the components are removed in multiple treatments.
5. The method of claim 1 further comprising treating the tissue with an agent selected from the group consisting of anti-angiogenic compounds, procoagulant compounds, cytokines, chemotherapeutic agents, and radiation.
6. The method of claim 5 wherein the agent is a cytokine and the cytokine is selected from the group consisting of GM-CSF, erythropoietin, thrombopoietin, G-CSF, M-CSF and SCF.
7. The method of claim 1 further comprising selectively removing soluble cytokine receptor molecules.
8. The method of claim 7 wherein the soluble cytokine receptor molecules are selected from the group consisting of soluble tissue necrosis factor receptor-1 ("sTNFR-1"), soluble tissue necrosis factor receptor-2 ("sTNFR-2"), soluble interleukin-2 receptor ("sIL-2R"), soluble interleukin-1 receptor ("sIL-1R"), soluble interleukin-6 receptor ("sIL-6R"), and soluble interferon-gamma receptor ("sIFN-gammaR").
9. The method of claim 8 wherein the cytokine receptor molecules are removed by binding to the cytokine or to an antibody or antibody fragment immunoreactive with the cytokine receptor molecules.

8. 10. The method of claim 9 wherein the cytokine or antibody or antibody fragments are immobilized in a filter or column through which the patient's blood or plasma is circulated prior to being returned to the patient.

9. 11. The method of claim 1 further comprising vaccinating the patient with a vaccine against the transformed, infected or diseased tissue.

12. A system for inducing an immune response against transformed, infected or diseased tissue comprising  
a device for removing only components present in the blood having a molecular weight of 120,000 daltons or less, having inlet and outlet means for connection to a pump and tubing to recirculate the blood of a patient through the device.

11. 13. The system of claim 12 wherein the device is a capillary membrane filter with a pore size of between about 0.02 and 0.05 microns.

12. 14. The system of claim 12 wherein the device is a parallel plate filter with a pore size of between about 0.04 and 0.08 microns.

13. 15. The system of claim 12 wherein the device comprises filters with different pore sizes or geometries to provide for staggered removal of materials from the blood.

14. 16. The system of claim 12 wherein the device is an absorbent column selectively removing specific cytokine or cellular inhibitors from the blood.

17. The system of claim 16 wherein the cytokine or cellular inhibitors are selected from the group consisting of soluble tissue necrosis factor receptor-1 ("sTNFR-1"), soluble tissue necrosis factor receptor-2 ("sTNFR-2"), soluble interleukin-2 receptor ("sIL-2R"), soluble interleukin-1 receptor ("sIL-1R"), soluble interleukin-6 receptor ("sIL-6R"), and soluble interferon-gamma receptor ("sIFN-gammaR").

16. 18. The system of claim 17 comprising cytokines or antibody or antibody fragments immunoreactive with the cytokine receptor molecules.

- 17/19. The system of claim 18 wherein the cytokine or antibody or antibody fragments are immobilized in a filter or column through which the patient's blood or plasma is circulated prior to being returned to the patient.
- 18/20. The system of claim 12 wherein the blood is plasma.
- 19/21. The system of claim 12 wherein the system includes means for administering radiation to the tissue.

22. A kit for treatment of a patient to induce an immune response against transformed, infected or diseased tissue comprising:  
a device for removing only components present in the blood having a molecular weight of 120,000 daltons or less and  
an agent selected from the group consisting of anti-angiogenic compounds, procoagulant compounds, cytokines, chemotherapeutic agents, and radiation, in a dosage formulation for treatment of the patient.
23. The kit of claim 22 wherein the agent is an anti-angiogenic compound.
24. The kit of claim 22 wherein the agent is a procoagulant compound.
25. The kit of claim 22 wherein the agent is a cytokine.
26. The kit of claim 25 wherein the cytokine is selected from the group consisting of GM-CSF, erythropoietin, thrombopoetin, G-CSF, M-CSF and SCF.
27. The kit of claim 22 wherein the agent is a chemotherapeutic agent.
28. The kit of claim 27 wherein the agent is selected from the group consisting of alkylating agents, doxyrubicin, carboplatinum, cisplatinum, and taxol.
29. The kit of claim 22 further comprising anticoagulant to treat the device for removal of components from the blood prior to use.

Add a 67